REMARKS

Claims 1-54 are currently pending in the present application. Claims 1-6, 8, 9, 16-18, 23, 24, 26, 27, 34-36, and 41 stand rejected under 35 U.S.C. § 102(b) as being anticipated by United States Patent No. 6,634,590 to Rau et al. (hereinafter "Rau"). Claims 7, 25, 42, and 43 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Rau in view of United States Patent No. 4,959,951 to Mori et al. (hereinafter "Mori"). Claims 10-15, 19-22, 28-33, 37-40, and 44-54 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Rau.

Applicants respectfully request consideration of the application in view of the foregoing amendments and the following remarks.

Claims 1-6, 8, 9, 16-18, 23, 24, 26, 27, 34-36, and 41 and 35 U.S.C. § 102(b)

The rejection of claims 1-6, 8, 9, 16-18, 23, 24, 26, 27, 34-36, and 41 as being anticipated by Rau under 35 U.S.C. § 102(b) is respectfully traversed.

A. Claims 1-5

Rau is generally directed to methods of forming wound fiber packages and to wound fiber packages. Embodiments of Rau involve "wind[ing] a fiber strand onto a bobbin to form a package in a manner such that upon later use, the strand is not drawn across selected surface portions of the package so as to reduce strand abrasion and breakage."[1] The strand wound onto a bobbin, in some embodiments, is supplied from a forming package.[2] The bobbins can be "used to form warp beams and supply weft, or fill, yarn during a weaving operation."[3]

Applicant has amended claim 1 to recite a method of weaving a fabric using fill yarns from at least one forming package that comprises providing a plurality of warp yarns to a loom, providing at least one forming package of yarn as a fill yarn to the loom by paying out the yarn from the outside of the at least one forming package directly to the loom, and weaving the plurality of warp yarns and the fill yarn to form a fabric. Support

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[1] Rau, col. 2, l. 66 to col. 3, l. 2.
[2] *See, e.g., id.*, col. 5, l. 49 to col. 6, l. 48; FIG. 1.
[3] *Id.*, col. 1, ll. 22-23.

for this amendment can be found throughout the specification including, without limitation, at page 17.

Applicants respectfully submit that many of the differences between Applicants' position and the Office Action's position center on the distinction between the terms "forming package" and "bobbin." While the term "forming package" is generally understood in the fiber glass industry, Applicants also provided an explicit definition of this term in their application that is consistent with it normal meaning:

> As used herein, the term "forming package" refers to a package wound on a winder after formation of the fiber glass and after treatment of the fiber glass with a sizing composition. Forming packages can be processed and repackaged (e.g., wound into a different, non-forming package) prior to shipment by a fiber glass manufacturer. For example, forming packages can be supplied to a twist frame, where the strands from the forming packages may be twisted and wound into bobbins. A forming package typically has at least strand wound thereon, with each strand comprising a plurality of filaments. Typical forming packages are generally cylindrically-shaped and have a hollow center.[4]

The term "bobbin" is often used in the fiber glass industry to refer to devices onto which yarn from a forming package is wound using a twist frame or similar winder for imparting twist to the yarn. Rau, the primary reference cited in the Office Action, uses these terms consistently with Applicants. For example, Rau states:

> Glass fibers are commonly formed by attenuating molten glass through orifices in a bushing. The fibers are then drawn across an applicator which coats at least a portion of the fiber surface with a sizing composition, gathered into one or more discrete strands by gathering shoes, and wound on a winding machine into a forming package. The forming packages are then collected and typically placed in a drier to dry the sizing composition. After drying, the forming packages are moved to a twist frame where the fiber strands are unwound from the forming package and wound onto a bobbin. The bobbins are thereafter used to form warp beams and supply weft, or fill, yarn during a weaving operation.[5]

For purposes of the present Office Action, it is important to note that Applicants' definition of the term forming package, as well as Rau's usage of the same term,

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[4] Specification, p. 3, l. 22 to p. 4, l. 6.
[5] Rau, col. 1, ll. 12-23.

specifically excludes packages formed when yarn from a forming package is twisted and wound into a bobbin. Based on Applicants' definition and Rau's use of the terms forming package and bobbin, it would be inconsistent with Rau itself to interpret forming package as including the wound fiber packages claimed in Rau.

Regarding claim 1, the Office Action states that the limitations recited therein "have been cited as well known and conventional practice in the art of yarn feeding to looms by the instant Background Of Invention."[6] The Office Action further states: "The only limitation that is not implicitly disclosed in the Background is that the fill yarn be payed out from the outside of the forming package."[7] Applicants respectfully traverse this assertion in the Office Action. Applicants respectfully submit that nowhere in the Background section of their application is it stated or implied that fill yarn can be provided directly from a forming package to a loom as recited in claim 1. Rather, the Background states: "Twisted bobbin yarns are also fed to the loom as fill yarns to make the fabric."[8] In contrast, Applicants' invention provides yarn from forming packages to the loom as fill yarns, and the forming packages are not bobbin yarns as described in its Background (and as described in Rau).

One of the advantages of embodiments of Applicants' invention is the elimination of the step of winding yarn from a forming package into a bobbin prior to supplying the yarn to a loom as a fill yarn.[9] In considering Applicants' previous response, the current Office Action states that "there is nothing in the claims in the form of a negative limitation stating that no bobbin winding exists."[10] Applicants respectfully disagree with this assertion. First, the term forming package specifically excludes packages formed when yarn from a forming packages is wound into a bobbin. Moreover, Applicants have amended claim 1 to make it clear that no bobbin winding exists. Specifically, Applicants have amended claim 1 to recite "providing at least one forming package of yarn as a fill yarn to the loom by paying out the yarn from the outside of the at least one forming

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[6] Office Action mailed May 16, 2006, page 2.
[7] *Id.*
[8] Specification, p. 3, ll. 3-4.
[9] *See, e.g., id.*, p. 3, ll. 7-10.
[10] Office Action mailed May 16, 2006, p. 5.

package directly to the loom." This amendment makes it clear that yarn goes directly from the forming package to the loom and thus, no intermediate bobbin winding occurs.

For at least the reason that Rau does not teach or suggest providing at least one forming package of yarn as a fill yarn to the loom by paying out the yarn from the outside of the at least one forming package directly to the loom as recited in amended claim 1, Applicants respectfully submit that claim 1 is patentable over Rau. As claims 2-5 depend from and further limit claim 1, Applicants respectfully assert that claims 2-5 are also not anticipated by Rau and respectfully request that the rejection of these claims also be withdrawn.

Applicants also wish to discuss a few additional statements in the Office Action. The Office Action states that "[t]he yarn package in Rau could be referred to as a forming package or a bobbin or a yarn package, etc" and that "[t]he reference to the yarn package on a bobbin in Rau can correspondingly be referred to as a 'forming package.'"[11] Applicants respectfully disagrees with these assertions. As set forth above, Applicants' explicit definition of forming package does not include the wound fiber packages of Rau. These statements are also inconsistent with Rau itself as Rau explicitly describes forming packages, and states that forming packages are supplied to the winder in Rau to make its wound fiber packages.[12] Thus, the explicit use of the term forming package in Rau makes it improper to assert that the end product of Rau (the wound fiber package made using one or more forming packages) could also be considered a forming package. This distinction in Rau again supports the patentability of Applicants' invention.

B. Claims 6, 8, 9, 16-18, 23, 24, 26, 27, and 34-36

Applicants have amended claims 6 and 23. Support for these amendments can be found at page 17, as well as elsewhere throughout the specification.

Amended claim 6 recites an apparatus for providing a forming package of yarn with substantially no twist directly to a loom that comprises at least one forming package holder and at least one payout ring removably coupled to the at least one forming

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[11] *Id.*, p. 6.
[12] *See, generally,* Rau, col. 5, l. 50 to col. 6, l. 15.

package holder, the payout ring comprising a ring and a hub, wherein the hub secures the payout ring to the forming package holder.

Amended claim 23 recites an apparatus for providing a forming package of yarn with substantially no twist directly to a loom that comprises at least one forming package holder, and at least one payout ring removably coupled to the at least one forming package holder, the payout ring having a diameter larger than a diameter of the forming package to be provided to the loom.

Applicants first note that the above distinction between forming packages and bobbins, both in the present application and in Rau, provide context for the below remarks on the differences between the structure recited in Rau and the claimed apparatuses.

Rau does not disclose an apparatus consistent with those recited in claims 6 and 23. First, Applicants note that the structure in Rau cited by the Office Action is not related to providing a forming package of yarn with substantially no twist directly to a loom as recited in amended claims 6 and 23. The forming package (16) in Rau is provided to the bobbin winder (10), not a loom.

In addition, the ring (40) of the apparatus disclosed in Rau is not coupled to a forming package holder. The ring (40) is coupled to a bobbin winder (10), which is spatially independent from the rotatable support (18), which holds the forming package (16) shown in FIG. 1 of Rau. For at least the reason that Rau does not teach or suggest a payout ring removably coupled to a forming package holder as recited in claims 6 and 23, Applicants respectfully submit that claims 6 and 23 are patentable over Rau. As claims 8, 9, and 16-18 depend from and further limit claim 6 or an intervening dependent claim, Applicants respectfully assert that claims 8, 9, and 16-18 are also patentable over Rau and respectfully request that the rejection of these claims also be withdrawn. As claims 24, 26, 27, and 34-36 depend from and further limit claim 23 or an intervening dependent claim, Applicants respectfully assert that claims 24, 26, 27, and 34-36 are also patentable over Rau and respectfully request that the rejection of these claims also be withdrawn.

Applicants also wish to comment on the following statements in the Office Action:

> Referring to figure 1, the bobbin holder in Rau is coupled to a stand 52 as claimed. The package or bobbin in Rau is vertically oriented as claimed. Rau also discloses an eyelet 24 for guiding a yarn to a further area or device. There is nothing structurally that would not allow the yarn in Rau to be led to a loom or any other device.[13]

Applicants wish to clarify that the yarn in FIG. 1 of Rau is not paid out from the bobbin 28 on the strand twisting apparatus 32 through the pig-tail 24. Rather, a strand 14 is drawn from a forming package 16 through the pig-tail 24 and wound about the bobbin 28 on the bobbin winder 10. In other words, the strand 14 is being wound on the bobbin 28 in FIG. 1, not paid out from the bobbin.

C. Claim 41

Claim 41 recites a system for weaving fabrics that comprises a loom, a beam of warp yarn, at least one package holder, at least one forming package positioned on the at least one package holder, at least one payout ring removably coupled to the at least one package holder, the at least one payout ring having a diameter larger than the diameter of the at least one forming package.

As set forth above in connection with claims 6 and 23, Rau does not teach or suggest a payout ring removably coupled to a package holder for a forming package. For at least this reason, Applicants respectfully submit that claim 41 is patentable over Rau.

Claims 7, 25, 42, and 43 and 35 U.S.C. § 103(a)

The rejection of claims 7, 25, 42, and 43 and being unpatentable over Rau in view of Mori under § 103(a) is respectfully traversed.

Mori relates generally to a yarn guide device for a two-for-one twister. The Office Action only cites Mori as teaching "a yarn guide and winding device that uses a ring member with spokes to connect the ring to the hub of the device." However, Mori does not teach or suggest a payout ring removably coupled to a forming package holder as recited in independent claims 6 and 23, or a payout ring removably coupled to a package holder having a forming package positioned on it as recited in independent claim 41. Accordingly, Mori does not cure the deficiencies of Rau discussed above as to

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[13] Office Action mailed October 3, 2005, page 3.

independent claims 6, 23, and 41. As claim 7 depends from claim 6, claim 25 depends from claim 23 or an intervening dependent claim, and claims 42 and 43 depend from claim 41 or an intervening dependent claim, Applicants respectfully submit that these claims are patentable over Rau in view of Mori.

Claims 10-15, 19-22, 28-33, 37-40, and 44-54 and 35 U.S.C. § 103(a)

The rejection of claims 10-15, 19-22, 28-33, 37-40, and 44-54 as being unpatentable over Rau under 35 U.S.C. § 103(a) is respectfully traversed.

Claims 10-15 and 19-22 depend from claim 1 or an intervening dependent claim. Applicants have previously set forth why claim 1 is patentable over Rau. As claims 10-15 and 19-22 each depend from claim 1 or an intervening dependent claim, Applicants likewise respectfully submit that these claims are patentable.

Claims 28-33 and 37-40 depend from claim 23 or an intervening dependent claim. Applicants have previously set forth why claim 23 is patentable over Rau. As claims 28-33 and 37-40 each depend from claim 23 or an intervening dependent claim, Applicants likewise respectfully submit that these claims are patentable.

Claims 44-54 depend from claim 41 or an intervening dependent claim. Applicants have previously set forth why claim 41 is patentable over Rau. As claims 44-54 each depend from claim 41 or an intervening dependent claim, Applicants likewise respectfully submit that these claims are patentable.

Dependent Claims

In responding to the claim rejections above, Applicants submit that the dependent claims are patentable based on their dependency from independent claims, which Applicants argue are patentable. Thus, in many instances, Applicants have not provided separate remarks specifically directed to the Office Action's grounds for rejecting the dependent claims. Applicants' failure to comment on or otherwise traverse the rejection of the dependent claims should not be viewed as agreement, on the part of Applicants, with the Office Action's grounds for rejection.

CONCLUSION

In view of the foregoing, an allowance of the claims is respectfully solicited. The Examiner is respectfully invited to contact J. Jason Link at 336.607.7443 to discuss any matter related to the present application.

Respectfully submitted,

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